

Table 13. Results for analyses of stable isotope ratios and tritium and carbon-14 activities in samples collected for the Southern Sierra Groundwater Ambient Monitoring and Assessment (GAMA) study, California, June 2006.

[The five-digit number in parentheses below the constituent name is the U.S. Geological Survey parameter code used to uniquely identify a specific constituent or property. Laboratory entity codes are listed in the footnotes. Information about analytes given in [table 3J](#). Samples from all fifty wells were analyzed for stable isotopes of water; samples from twenty-one of the slow and intermediate wells were analyzed for tritium and carbon. Stable isotope ratios are reported in the standard delta notation (δ), the ratio of a heavier isotope to more common lighter isotope of that element, relative to a standard reference material. SOSA, Southern Sierra study unit grid well; SOSAFP, Southern Sierra study unit flow-path well; MCL-CA, California Department of Public Health maximum contaminant level; na, not available; nc, sample not collected; pCi/L, picocuries per liter; <, less than]

GAMA well identification number	$\delta^2\text{H}$ (per mil) (82082)²	$\delta^{18}\text{O}$ (per mil) (82085)²	Tritium (pCi/L) (99914)³	$\delta^{13}\text{C}$ (per mil) (82081)⁴	Carbon-14 (percent modern) (49933)⁵
Threshold type¹	na	na	MCL-CA	na	na
Threshold level	na	na	20,000	na	na
Grid wells					
SOSA-01	-74.5	-10.44	nc	nc	nc
SOSA-02	-70.8	-9.95	nc	nc	nc
SOSA-03	-87.4	-11.58	10.9	-8.76	70.2
SOSA-04	-78.0	-10.06	nc	nc	nc
SOSA-05	-60.6	-8.60	nc	nc	nc
SOSA-06	-61.8	-8.92	nc	nc	nc
SOSA-07	-101	-13.94	7.7	-11.05	89.3
SOSA-08	-64.2	-8.67	nc	nc	nc
SOSA-09	-71.9	-9.98	nc	nc	nc
SOSA-10	-94.7	-12.70	8.0	-4.97	49.3
SOSA-11	-71.8	-9.87	nc	nc	nc
SOSA-12	-104	-14.20	nc	nc	nc
SOSA-13	-75.6	-10.55	<1	-12.41	81.9
SOSA-14	-80.3	-10.57	nc	nc	nc
SOSA-15	-75.5	-11.07	14.4	-16.11	90.8
SOSA-16	-79.6	-10.54	nc	nc	nc
SOSA-17	-78.8	-10.84	nc	nc	nc
SOSA-18	-76.2	-10.39	nc	nc	nc
SOSA-19	-74.2	-10.05	nc	nc	nc
SOSA-20	-77.6	-10.62	nc	nc	nc
SOSA-21	-77.1	-10.52	nc	nc	nc
SOSA-22	-92.0	-12.95	9.0	-20.75	99.4
SOSA-23	-68.8	-9.53	nc	nc	nc
SOSA-24	-68.8	-9.61	nc	nc	nc
SOSA-25	-67.0	-9.41	nc	nc	nc
SOSA-26	-65.9	-9.57	nc	nc	nc
SOSA-27	-64.6	-9.37	nc	nc	nc
SOSA-28	-75.4	-9.98	nc	nc	nc
SOSA-29	-92.8	-12.72	nc	nc	nc
SOSA-30	-82.2	-10.99	nc	nc	nc
SOSA-31	-83.6	-11.09	nc	nc	nc
SOSA-32	-74.1	-10.56	nc	nc	nc
SOSA-33	-69.3	-9.40	nc	nc	nc
SOSA-34	-70.8	-9.56	nc	nc	nc
SOSA-35	-84.8	-10.61	nc	nc	nc

Table 13. Results for analyses of stable isotope ratios and tritium and carbon-14 activities in samples collected for the Southern Sierra Groundwater Ambient Monitoring and Assessment (GAMA) study, California, June 2006—Continued.

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GAMA well identification number	$\delta^2\text{H}$ (per mil) (82082) ²	$\delta^{18}\text{O}$ (per mil) (82085) ²	Tritium (pCi/L) (99914) ³	$\delta^{13}\text{C}$ (per mil) (82081) ⁴	Carbon-14 (percent modern) (49933) ⁵
Threshold type¹	na	na	MCL-CA	na	na
Threshold level	na	na	20,000	na	na
Flow-path wells					
SOSAFP-01	-74.9	-10.08	<1	-11.21	63.8
SOSAFP-02	-100	-13.34	10.2	-3.35	25.0
SOSAFP-03	-75.5	-10.55	<1	-13.01	65.4
SOSAFP-04	-73.7	-10.10	1.6	-12.62	84.4
SOSAFP-05	-75.4	-10.64	<1	-13.23	63.3
SOSAFP-06	-74.5	-10.30	1.3	-10.06	76.0
SOSAFP-07	-68.3	-9.00	5.8	-11.81	103.2
SOSAFP-08	-69.4	-9.34	1.0	-12.82	83.1
SOSAFP-09	-69.1	-9.21	3.2	-12.83	98.8
SOSAFP-10	-69.0	-9.57	<1	-13.61	77.6
SOSAFP-11	-66.6	-9.12	3.2	-12.60	85.1
SOSAFP-12	-71.3	-9.78	<1	nc	nc
SOSAFP-13	-75.0	-10.38	1.3	nc	nc
SOSAFP-14	-75.4	-10.31	1.9	-14.59	69.5
SOSAFP-15	-73.2	-10.13	4.5	-15.42	89.8

¹Maximum contaminant level thresholds are listed as MCL-US when the MCL-US and MCL-CA are identical, and as MCL-CA when the MCL-CA is lower than the MCL-US or no MCL-US exists.

²USGS Stable Isotope Laboratory, Reston, Virginia (USGSSIVA).

³USGS Stable Isotope and Tritium Laboratory, Menlo Park, California (USGSH3CA).

⁴University of Waterloo (contract laboratory) (CAN-UWIL).

⁵University of Arizona, Accelerator Mass Spectrometry Laboratory (contract laboratory) (AZ-UAMSL).